MAGMA FRS
FCD GAGE ID #6718

STATION DESCRIPTION

LOCATION – The dam is located in Pinal County south and east of Johnson Ranch. Access is via Arizona Farms Road from either Hunt Highway or from SR 79. N 33° 07' 10.7" and W 111° 24' 12.1". Located in S35 T3S R9E in the Florence 7.5-minute quadrangle.

ESTABLISHMENT – The transducer gage was established on November 15, 2007.

DRAINAGE AREA – Unavailable

GAGE – The gage is a pressure transducer type instrument located at the outlet from the dam pool. The sensor is at elevation 0.30 feet gage height, or 1,601.30 feet NAVD 1988, as provided from Magma FCD.

There is one staff gage. It is located on the outlet trash rack. Elevations are in M.S.L. Marked numbers are read as the posted number corresponds to the top of the foot mark break below the posted number.

There are no crest gages at this location.

ZERO GAGE HEIGHT - is defined as the invert of the principal outlet culvert pipe. Elevation 1,601.00 feet NAVD 1988

HISTORY – Weather data have been collected at this site since August 30, 1989. Levels had been recorded in the past at this outlet. Old data are not currently available. Current level sensor installed November 15, 2007. Zero gage height redefined as 1601.00 feet NAVD 1988 for all data record. Update done following issuance of preliminary response plan.

REFERENCE MARKS –

None known.

RP-1 is the invert of the outlet, at 0.00 feet gage height.

CHANNEL AND CONTROL – The primary outlet from the dam is a reinforced concrete pipe culvert. The culvert length is 136 feet. The auxiliary spillway for the dam is located to the east of the principal outlet.

PRIMARY / AUXILIARY OUTLET –

The primary outlet is a 39-inch diameter concrete culvert pipe. The invert of the inlet is at 0.00 feet gage height, or 1,601.00 feet NAVD 1988. The invert of the outlet is at –1.13 feet gage height, or 1,599.87 feet NAVD 1988. The culvert length is 136 feet. Flow begins through the culvert at 0.00 feet gage height.

The auxiliary spillway is located to the southeast of the principal outlet. The bottom width of the spillway is approximately 180 feet. The spillway crest is at about 22.1 feet gage height, or 1,623.1 feet NAVD 1988.

The top of the dam elevation is about 27.3 feet gage height, or about 1,628.30 feet NAVD 1988.

RATING – The current discharge rating is Rating #1. The rating was developed from a culvert analysis using HY8. The spillway flows were evaluated using the weir equation for a broad-crested weir.

The current capacity rating is Rating #1. Rating #1 was taken from data developed from recent 1-foot contours provided to J.E. Fuller by Magma FCD.

DISCHARGE MEASUREMENTS – Direct measurements could be made in the natural channel below the dam.

POINT OF ZERO FLOW – Flow begins through the primary outlet at 0.00 feet gage height. Flow begins through the auxiliary spillway at approximately 22.1 feet gage height.

FLOODS / SIGNIFICANT IMPOUNDMENTS – None recorded to date.

REGULATION – None known

DIVERSIONS – None

ACCURACY – Fair

JUSTIFICATION – Monitor water levels behind dam for public safety.

UPDATE – August 17, 2011
D E Gardner